Interfacing TNC's to Motorola Mobile Radios

Description:

There are two common families of Motorola mobiles that are used for packet. They are typically single unit (not remote head), with a 16 or 20 pin interface connector on the backside of the radio. There are older models such as the Maxtrac, Radius M100, M120 and similar. Newer models include CDM750's, CDM1250's and the entrie XPR series of mobiles.

16 Pin Connector:

RADIO							
2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15

1	External Speaker (-)
2	External Microphone Audio
3	Push To Talk
4	Spare
5	Flat Transmit Audio
6	Spare
7	Ground
8	COR (Active Low)
9	Spare
10	Ignition Control
11	Receive Audio
12	Spare
13	Switched A+ Sense
14	Hook Switch
15	Internal Speaker (+)
16	External Speaker (+)

20 Pin Connector:

RADIO									
20	2	4	6	8	10	12	14	16	18
19	1	3	5	7	9	11	13	15	17

1	External Speaker (-)
2	External Microphone Audio
3	Digital Input #1
4	Digital Output #2 (External Alarm)
5	Flat Transmit Audio
6	Digital Input #3 (UART_RX)
7	Ground
8	Digital In/Out #4 (UART_TX)
9	Digital In #5 (Emergency)
10	Digital In #6 (Ignition)
11	Flat/Filtered Receive Audio
12	Digital In/Out #7
13	Switch B+
14	Digital In/Out #8
15	RSSI
16	External Speaker (+)
17	BUS+
18	Boot Control
19	No Connection
20	No Connection

26 Pin Connector:

RADIO												
2	4	6	8	10	12	14	16	18	20	22	24	26
1	3	5	7	9	11	13	15	17	19	21	23	25

1	USB Data +
2	USB Data -
3	VBUS
4	USB/MAP_ID/Ground
5	MAP_ID_2
6	MAP_ID_1
7	SW B+
8	Power Ground
9	External Speaker (-)
10	External Speaker (+)
11	External Transmit Audio
12	Audio Ground
13	AUX Audio Out #1 / RXD

14	Receive Audio
15	AUX Audio Out #2 / TXD
16	Ground
17	Push To Talk/GP5_1
18	Ground
19	Monitor/GP5_2
20	GP5_6
21	Channel Activity/GP5_3
22	GP5_7
23	Emergency Switch
24	GP5_8
25	Ignition Sense
26	VIP_1/External Alarm
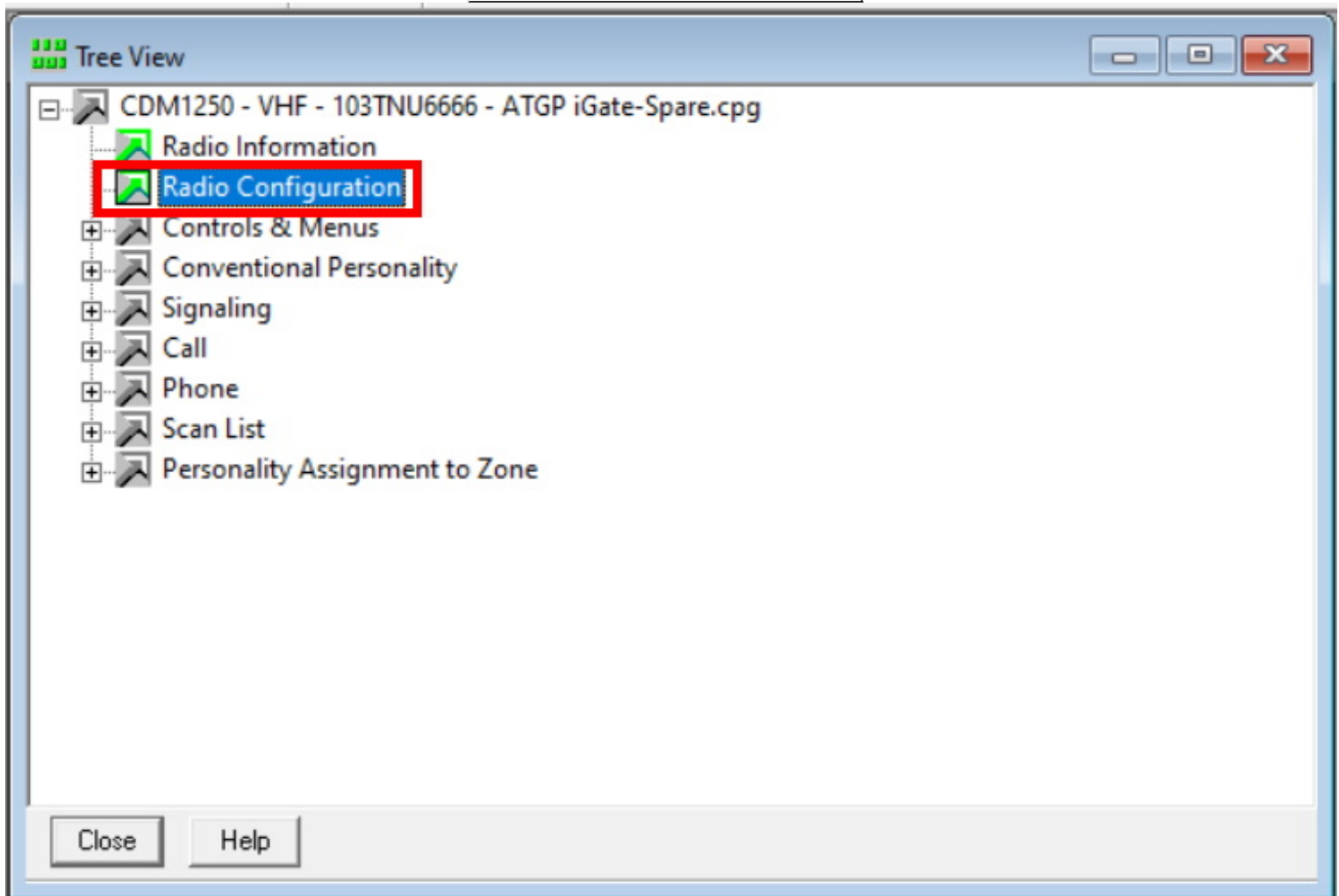
Tree View

- □ CDM1250 - VHF - 103TNU6666 - ATGP iGate-Spare.cpg
  - Radio Information
  - **Radio Configuration**
  - ⊞ Controls & Menus
  - ⊞ Conventional Personality
  - ⊞ Signaling
  - ⊞ Call
  - ⊞ Phone
  - ⊞ Scan List
  - ⊞ Personality Assignment to Zone

Close   Help

Radio Configuration

Voice Storage | **Microphone** | **Password** | **Home Revert**

Basic | Lights/LEDs | Alert Tones | Scan | Menu | Test | Monitor | Option Board

Accessory Configuration | Accessory Pins | Auxiliary Control | Tx Power

Accessory Power Up Delay (ms): `1000`

Debounce Duration (ms): `100`

External Alarm Duration (sec): `1`

External Alarm Delay (sec): `0`

External Alarm Configuration: `Non-Permanent Manual Re-Arm`

Rx Audio Type: `Flat Audio`

Data PTT Audio Source: `Flat Tx Audio`   Ext. PTT Audio Source: `Flat Tx Audio`
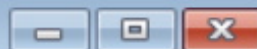
☐ Data PTT Overrides Voice   ☐ Handset

Ignition Sense Type: `On/Off & Ignition`

Close   Help

Radio Configuration

Voice Storage | Microphone | Password | Home Revert

Basic | Lights/LEDs | Alert Tones | Scan | Menu | Test | Monitor | Option Board

Accessory Configuration | **Accessory Pins** | Auxiliary Control | Tx Power

Accessory Package: Default

Pin #	Function Selection (Direction)	Active Level	Debounce Enable
3	Data PTT (Input)	Low	☑
4	Null	Low	☐
6	Null	Low	☐
8	Null	Low	☐
9	Null	Low	☐
12	CSQ Detect (Output)	Low	☐
14	Null	Low	☐

Close | Help

Tree View

- CDM1250 - VHF - 103TNU6666 - ATGP iGate-Spare.cpg
  - Radio Information
  - Radio Configuration
  - Controls & Menus
  - **Conventional Personality**
    - APRS 144.3900
    - ATGP 144.3400
  - Signaling
  - Call
  - Phone
  - Scan List
  - Personality Assignment to Zone

Close   Help

Basic | Options | Signaling | Scan | Phone | Advanced | Data Revert |

Alias: APRS 144.3900

Channel Bandwidth (kHz): 25

Rx

Frequency (MHz): 144.390000

Squelch Type: CSQ

TPL Freq (Hz): 67.0

Code: XZ

DPL Code: 023 ☐ DPL Invert ☐ **Rx Only Personality**

Tx

Frequency (MHz): 144.390000

Squelch Type: CSQ

TPL Freq (Hz): 67.0 Code: XZ ☑ Reverse Burst

DPL Code: 023 ☐ DPL Invert ☑ Turn-Off Code

1 of 2

Close   Help

Basic | Options | Signaling | Scan | Phone | **Advanced** | Data Revert |

☐ Option Board Feature   Option Board Configuration Index: [Disabled ▲▼]

☐ Noise Blanker   ☐ Tx Only Personality

☐ Non-Standard Reverse Burst

Compression Type: [Disabled ▼]

Expansion Type: [Disabled ▼]

Emphasis Selection: [None ▼]

Reference Frequency (MHz)

Rx: [Default ▼]   Tx: [Default ▼]

1 of 2 |◄ ◄ ► ►| ➔ ✚ ✗ ▦

Close   Help